Attorney Docket # 3397-1-11PRCCE

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Rauno RANTANEN
Serial No.: 10/019,120
Filed: January 30, 2002
For: Method and Apparatus for Spreading Treating Agent on a Moving Web

Examiner: Turocy, David P.
Group Art: 1762

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Alfred W. Froebrich
Name of applicant, assignee or Registered Representative

Signature

March 8, 2007
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APPEAL BRIEF

SIR:

This is an appeal, pursuant to 37 C.F.R. § 41.37 from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action wherein the Examiner finally rejected appellant's claims. The rejected claims are reproduced in the Appendix A attached hereto. A Notice of Appeal was filed on January 8, 2007.

The fee of $500.00 for filing an Appeal Brief pursuant to 37 C.F.R. § 41.20 is submitted herewith. Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

REAL PARTY IN INTEREST

The assignee, Metso Paper, Inc., of applicant, Rauno Rantanen, is the real party of interest in the above-identified U.S. Patent Application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals and/or interferences related to the above-identified application at the present time.

STATUS OF CLAIMS

Claims 1-19 and 68-75 have been cancelled. Claims 20-26, 29-34, 36-40, 42-46, 48-52, 54-66, and 76-85 have been rejected. Claims 27, 28, 35, 41, 47, 53, 67, and 86-89 are objected to. Claims 20-67 and 76-89 are on appeal.

STATUS OF AMENDMENTS

There have been no Amendments filed subsequent to the Final Office Action. A request for reconsideration was filed on November 2, 2006. The Examiner has maintained his rejections as stated in the Advisory Action mailed November 28, 2006.

SUMMARY OF THE CLAIMED SUBJECT MATTER

References to page and line numbers for support of the claimed subject matter are made with reference to the English translation of the International application filed with the present national stage application.

Independent Claim 20

Appellant's claimed invention recited in claim 20 is directed to a method for applying a treating agent onto a moving surface and comprises the steps of:

"(a) feeding a treating agent for treating a web (film transfer roll 1) into at least one feeding chamber" (feeding chamber 3) (see page 5, lines 19-21, and Fig. 1);

"(b) forming continuous jets of the treating agent by directing the treating agent through openings (openings 10) in at least one nozzle plate (nozzle plate 6), the openings in which the jets are formed being defined solely by the at least one nozzle plate" (page 5, line 36 - page 6, line 1, and Fig. 1); and

"(c) directing the jets of the treating agent toward the moving surface such that each of the jets are separated from the other ones of the jets when the jets exit the at least one nozzle plate" (page 6, lines 36-38).

Independent Claim 57

Appellant's claimed invention recited in claim 57 is directed to an apparatus for spreading a treating agent onto a moving surface which comprises:

"a body (body container 2) defining at least one feeding chamber (feeding chamber 3) for receiving a treating agent (page 5, lines 10-11 and 19-21, Fig. 1); and

"means for directing the treating agent from the feeding chamber onto the moving surface (film transfer roll 1), said means including at least one nozzle plate (nozzle plate 6) that at least partly closes said at least one feeding chamber, said at least one nozzle plate including openings (openings 10) in which continuous jets of the treating agent are formed when the feeding chamber is at least partially filled with pressurised treating agent" (page 5, line 36 - page 6, line 1, page 9, lines 20-23, and Fig. 1), "wherein each of said openings comprise a periphery

defined entirely by said at least one nozzle plate, and wherein said openings in which the jets are formed are defined solely by said at least one nozzle plate" (page 5, line 36-37), and "wherein the jets are directed onto the moving surface, each of the jets being separated from the other ones of the jets at the exit of the jets from the at least one nozzle plate" (page 6, lines 36-38).

Independent Claims 78

Appellant's claimed invention recited in claim 78 is directed to a method for applying a treating agent onto a moving surface and comprises the steps of:

"(a) feeding a treating agent into at least one feeding chamber" (feeding chamber 3)" (page 5, lines 19-21, Fig. 1);

"(b) forming continuous jets of the treating agent by directing the treating agent through openings (openings 10) in at least one nozzle plate (nozzle plate 6), the entire peripheries of said openings being defined by said at least one nozzle plate" (page 5, line 36-page 6, line 1, Fig. 1);

"(c) directing the jets of the treating agent toward the moving surface" (film transfer roll 1) (page 5, line 36 - page 6, line 1); and

"(d) moving the at least one nozzle plate relative to the at least one feeding chamber in a direction transverse to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated" (actuator 11) (page 8, line 32 - page 9, line 2, Fig. 2).

Independent Claim 83

Appellant's claimed invention recited in claim 83 is directed to an apparatus for spreading a treating agent onto a moving surface which comprises:

at least one feeding chamber (feeding chamber 3) for receiving a treating agent (page 5, lines 19-21);

"means for directing the treating agent from said at least one feeding chamber onto the moving surface (film transfer roll 1), said means including at least one nozzle plate (nozzle plate 6) that at least partly closes said at least one feeding chamber, said at least one nozzle plate including openings (openings 10) and having a length that is greater than a width of an area of the moving surface that is to be treated (see Fig. 2), wherein each of said openings comprise a periphery defined entirely by said at least one nozzle plate" (page 5, line 36 - page 6, line 1, and Fig. 1), and "wherein continuous jets of the treating agent are formed by said openings and directed onto the moving surface when the feeding chamber is at least partially filled with pressurised treating agent" (page 6, lines 36-38, and page 9, lines 20-23); and

"an actuator (actuator 11) operatively connected to said at least one nozzle plate for moving said at least one nozzle plate relative to said at least one feeding chamber so that said at least one nozzle plate is at least partly outside the width of the area of the moving surface that is to be treated" (page 8, line 32 - page 9, line 2, Fig. 2).

GROUNDS OF REJECTION TO BE REVIEWED IN APPEAL

1. Whether claims 20-21, 24-26, 29, 48-49, 52, 57, 58, 59, and 60 are anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 4,901,093 (Ruggiero).

2. Whether claim 83 is anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 5,649,867 (Briggs).

3. Whether claims 20-22, 24, 48-50, 52, 57-58, and 76-77 are unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 5,789,022 (Kustermann) in view of U.S. Patent No. 4,072,772 (Franz) and further in view of U.S. Patent No. 6,063,450 (Bernert).

4. Whether claims 23 and 51 are unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, and Bernert and further in view of U.S. Patent No. 3,301,699 (Mozzi).

5. Whether claims 36-38, 40, 55, and 64-65 are unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, and Bernert and further in view of U.S. Patent No. 5,405,087 (Waryu).

6. Whether claims 30-32, 34, 54, and 61-62 are unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, Bernert, and Waryu and further in view of U.S. Patent No. 5,219,618 (Daniels).

7. Whether claim 33 is unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, Bernert, Mozzi, and Waryu and further in view of Daniels.

8. Whether claim 39 is unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, Bernert, and Mozzi, and further in view of Waryu.

9. Whether claims 42-44, 46, and 56 are unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, Bernert, and Waryu and further in view of WO96/10463 (Kunze-Concewitz).

10. Whether claim 45 is unpatentable under 35 U.S.C. 103(a) over Kustermann, Franz, Bernert, and Mozzi and further in view of Kunze-Concewitz.

11. Whether claims 78, 82, and 83 are unpatentable under 35 U.S.C. 103(a) over Ruggiero in view of U.S. Patent No. 5,736,195 (Haaland).

12. Whether claims 79 and 84 are unpatentable under 35 U.S.C. 103(a) over Ruggiero and Haaland and further in view of U.S. Patent No. 5,790,147 (Hensel).

13. Whether claims 80 and 85 are unpatentable under 35 U.S.C. 103(a) over Ruggiero and Haaland and further in view of Waryu.

14. Whether claim 81 is unpatentable under 35 U.S.C. 103(a) over Ruggiero and Haaland and further in view of Kunze-Concewitz.

ARGUMENT

Rejection of Independent Claims 20 and 57 under 35 U.S.C. §102

Independent claims 20 and 57 are each rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 4,901,093 (Ruggiero).

As stated in MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Ruggiero fails to disclose "forming continuous jets of the treating agent by directing the treating agent through openings in at least one nozzle plate", as recited in claim 20, and "said at least one nozzle plate including openings in which continuous jets of the treating agent are formed when the feeding chamber is at least partially filled with pressurised treating agent", as recited in claim 57.

According to Ruggiero, a single impulse ink jet chamber has a plurality of orifices (see col. 3, lines 28-30 of Ruggiero). In each chamber 36, a diaphragm 44 is coupled to transducers 46, 48 (col. 3, lines 39-41). When a transducer is energized, the diaphragm 44 is moved toward the orifices 40 and droplets are ejected from the orifices 40 (col. 3, lines 51-56). Ruggiero relates to a ink jet printing which requires precise amounts of ink to be released so that a sharp printed image is produced. A sharp printed image could not be produced if Ruggiero ejected a continuous jet of ink. The Examiner contends that Ruggiero discloses a continuous jet because Ruggiero is continuous for a small amount of time. However, Ruggiero only discloses that droplets are formed. There is no disclosure of a jet being formed even for a very short period of time. Accordingly, the formation of droplets by Ruggiero can not be considered to disclose "forming continuous jets of the treating agent by directing the treating agent through openings in at least one nozzle plate", as expressly recited in independent claim 20.

The Examiner further states that "openings in which continuous jets are formed" as recited in independent claim 57 is merely intended use. However, the nozzles must be designed to form a continuous jet. For example, an orifice may be so small that only a droplet is released at one time even under high pressure. In Ruggiero, the orifices are designed to release only droplets and not a jet when the diaphragm is actuated. Since Ruggiero discloses only that droplets are formed when the diaphragm is actuated, Ruggiero fails to teach or suggest "said at least one nozzle plate including openings in which continuous jets of the treating agent are formed when the feeding chamber is at least partially filled with pressurised treating agent", as recited in claim 57.

In view of the above remarks, independent claims 20 and 57 are not anticipated by Ruggiero and the rejection of claims 20 and 57 under 35 U.S.C. §102 should be withdrawn.

Rejection of Claim 83 under 35 U.S.C. §102

Claim 83 stands rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 5,649,867 (Briggs).

Briggs fails to disclose "at least one nozzle plate that at least partly closes said at least one feeding chamber" and "an actuator operatively connected to said at least one nozzle plate for moving said at least one nozzle plate relative to said at least one feeding chamber so that said at least one nozzle plate is at least partly outside the width of the area of the moving surface that is to be treated".

Briggs discloses a portable waterplay structure having various water forming devices. The Examiner alleges that the adjustable shower disclosed at col. 7, lines 40-47, discloses the claimed actuator. However, the claimed actuator moves a nozzle plate relative to the feeding chamber. The entire shower head can not be considered to be a nozzle plate. If anything, only the portion indicated by 151 in Fig. 2 of Briggs can be considered to be the nozzle plate. This portion is not moved relative to a chamber. Rather, it is moved with the chamber in the shower head when the shower head is adjusted by a user (col. 7, lines 44-46 of Briggs). Since Briggs discloses that only a user moves the shower head, Briggs does not teach or suggest "an actuator operatively connected to said at least one nozzle plate for moving said at least one nozzle plate relative to said at least one feeding chamber so that said at least one nozzle plate is at least partly outside the width of the area of the moving surface that is to be treated", as recited in independent claim 83.

Furthermore, the only nozzle in Briggs having a width greater than the surface to be applied, i.e., a surface of a user playing in the sprinkler, is a conduit 31a (i.e. a stationary pipe with holes) which is separate from the shower head. This conduit 31a of Briggs fails to disclose

a nozzle plate because the nozzle is part of a pipe side wall and this embodiment fails to disclose that the nozzle moves relative the feeding chamber.

In view of the above remarks, the rejection of claim 83 under 35 U.S.C. §102 should be withdrawn.

Rejection of Claims 20 and 57 under 35 U.S.C. §103

Independent claims 20 and 57 are rejected under 35 U.S.C. §103 as unpatentable over U.S. Patent No. 5,789,022 (Kustermann) in view of U.S. Patent No. 4,072,772 (Franz) and U.S. Patent No. 6,063,450 (Bernert).

The Examiner's rejection fails to provide a *prima facie* case of obviousness because the combined teachings of Kustermann, Franz and Bernert fail to teach or suggest "forming continuous jets of the treating agent by directing the treating agent through openings in at least one nozzle plate, the openings in which the jets are formed being defined solely by the at least one nozzle plate", as recited in claim 20 and 57.

The Examiner acknowledges that Kustermann fails to disclose this limitation. However the Examiner alleges that this feature is disclosed by Franz. As acknowledged by the Examiner, Franz discloses that a working fluid medium is passed through a tube 278 (see col. 10, line 68 to col. 11, line 2 of Franz). Furthermore, Franz teaches that the holes 280, in which the exit end of the tube 278 is inserted, are designed so that a carrier medium can be passed through the holes 280 to atomize the working fluid medium passing out of the tube 278 (see col. 11, lines 7-13). Atomized fluid is not a continuous jet. Since Franz discloses that the working fluid medium flows through a tube 278 and that the flow is atomized, Franz fails to teach or suggest the step of "forming continuous jets of the treating agent by directing the treating agent through

openings in at least one nozzle plate, the openings in which the jets are formed being defined solely by the at least one nozzle plate", as expressly recited in independent claim 20.

The Examiner also alleges that "said openings in which the jets are formed are defined solely by said at least one nozzle plate", as recited in claim 57, is disclosed by Franz. As stated above, the Franz discloses a pipe 278 which only partially forms the jet. Accordingly, Franz fails to teach or suggest a nozzle plate having openings, wherein "said openings in which the jets are formed are defined solely by said at least one nozzle plate".

Bernert, in combination with Kustermann and Franz, also fails to teach or suggest a nozzle plate having openings, wherein "said openings in which the jets are formed are defined solely by said at least one nozzle plate". Bernert discloses a distribution pipe 10 with nozzles 12 for applying a liquid pasty medium. Since Bernert discloses separate nozzles, Bernert fails to disclose, teach or suggest a nozzle plate having openings, wherein "said openings in which the jets are formed are defined solely by said at least one nozzle plate", as recited in independent claims 20 and 57.

In view of the above remarks, the rejection of independent claims 20 and 57 should now be withdrawn.

Rejection of Claims 78 and 83 under 35 U.S.C. §103

Independent claims 78, 82, and 83 stand rejected under 35 U.S.C. §103 as unpatentable over Ruggiero in view of U.S. Patent No. 5,736,195 (Haaland).

The combined teachings of Ruggiero and Haaland fails to disclose, teach, or suggest "moving the at least one nozzle plate relative to the at least one feeding chamber", as recited in claim 78, or "an actuator operatively connected to said at least one nozzle plate for moving said at least one nozzle plate relative to said at least one feeding chamber", as recited in claim 83.

The Examiner alleges that Ruggiero discloses moving the nozzle transversely to the direction of the moving surface. Even if that statement were true -- which it is not, because the paper does not move when the print head scans the page -- Ruggiero fails to disclose, teach or suggest that the nozzle moves relative to the at least one feeding chamber. In contrast, Ruggiero discloses that the chamber 36 and orifices 40 are both parts of the print head and are moved simultaneously with the print head. Haaland does not disclose moving the nozzle plate.

Thus the combined teachings of Ruggiero and Haaland can not be considered to teach or suggest "moving the at least one nozzle plate relative to the at least one feeding chamber", as recited in independent claims 78 and 83.

For all of the above reasons, the independent claims 20, 57, 78, and 83 are allowable over the prior art of record.

Dependent claims 21-56, 58-67, 76-77, 79-82, and 84-89 are allowable for at least the same reasons as are independent claims 20, 57, 78, and 83, as well as for the additional reasons contained therein.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that appellant's appellants' claims are not rendered obvious anticipated by and are, therefore, patentable over the art of record, and the Examiner's rejections should be reversed.

Respectfully submitted,
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CLAIMS APPENDIX

Listing of Claims:

1.-19. (canceled)

20. (previously presented) A method for applying a treating agent onto a moving surface, comprising the steps of:

(a) feeding a treating agent for treating a web into at least one feeding chamber;

(b) forming continuous jets of the treating agent by directing the treating agent through openings in at least one nozzle plate, the openings in which the jets are formed being defined solely by the at least one nozzle plate; and

(c) directing the jets of the treating agent toward the moving surface such that each of the jets are separated from the other ones of the jets when the jets exit the at least one nozzle plate.

21. (previously presented) The method of claim 20, wherein the moving surface is a surface of a web to be treated and said step (c) of directing the jets toward the moving surface comprises directing the jets onto the surface of the web to be treated.

22. (previously presented) The method of claim 20, wherein said moving surface is a surface used to transfer the treating agent to a surface of a web to be treated such that said step (c) of directing the jets toward the moving surface comprises directing the jets to the surface used to transfer the treating agent.

23. (previously presented) The method of claim 20, wherein said step (c) of directing the jets toward the moving surface comprises directing the jets toward a roll nip between a surface of the web to be treated and a surface that contacts the web in the roll nip such that a portion of the treating agent is applied directly onto the surface of the web to be treated and another portion of the treating agent is applied directly onto the surface that contacts the web in the roll nip.

24. (previously presented) The method of claim 20, further comprising the step of feeding the treating agent through a screen plate before said step of directing the treating agent through openings in at least one nozzle plate.

25. (previously presented) The method of claim 20, further comprising the step of moving the at least one nozzle plate transversely relative to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

26. (previously presented) The method of claim 21, further comprising the step of moving the at least one nozzle plate transversely relative to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

27. (previously presented) The method of claim 22, further comprising the step of moving the at least one nozzle plate transversely relative to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

28. (previously presented) The method of claim 23, further comprising the step of moving the at least one nozzle plate transversely relative to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

29. (previously presented) The method of claim 24, further comprising the step of moving the at least one nozzle plate transversely relative to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

30. (previously presented) The method of claim 20, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

31. (previously presented) The method of claim 21, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

32. (previously presented) The method of claim 22, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

33. (previously presented) The method of claim 23, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

34. (previously presented) The method of claim 24, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

35. (previously presented) The method of claim 25, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

36. (previously presented) The method of claim 20, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

37. (previously presented) The method of claim 21, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

38. (previously presented) The method of claim 22, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

39. (previously presented) The method of claim 23, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

40. (previously presented) The method of claim 24, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

41. (previously presented) The method of claim 25, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

42. (previously presented) The method of claim 20, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

43. (previously presented) The method of claim 21, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

44. (previously presented) The method of claim 22, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

45. (previously presented) The method of claim 23, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

46. (previously presented) The method of claim 24, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

47. (previously presented) The method of claim 25, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

48. (previously presented) The method of claim 20, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

49. (previously presented) The method of claim 21, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

50. (previously presented) The method of claim 22, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

51. (previously presented) The method of claim 23, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

52. (previously presented) The method of claim 24, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

53. (previously presented) The method of claim 25, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

54. (previously presented) The method of claim 30, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

55. (previously presented) The method of claim 36, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

56. (previously presented) The method of claim 42, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

57. (previously presented) An apparatus for spreading a treating agent onto a moving surface, comprising:

a body defining at least one feeding chamber for receiving a treating agent; and

means for directing the treating agent from the feeding chamber onto the moving surface, said means including at least one nozzle plate that at least partly closes said at least one feeding chamber, said at least one nozzle plate including openings in which continuous jets of the treating agent are formed when the feeding chamber is at least partially filled with pressurised treating agent, wherein each of said openings comprise a periphery defined entirely by said at least one nozzle plate, and wherein said openings in which the jets are formed are defined solely by said at least one nozzle plate, and wherein the jets are directed onto the moving surface, each of the jets being separated from the other ones of the jets at the exit of the jets from the at least one nozzle plate.

58. (previously presented) The apparatus of claim 57, further comprising a screen plate fitted in said at least one feeding chamber such that the treating agent is screened by said screen plate before being directed through the openings in said at least one nozzle plate.

59. (previously presented) The apparatus of claim 57, wherein said at least one nozzle plate has a length that is greater than a width of an area of the moving surface that is to be treated, and further comprising actuators operatively connected to said at least one nozzle plate for moving said at least one nozzle plate at least partly outside the width of the area of the moving surface that is to be treated.

60. (previously presented) The apparatus of claim 58, wherein said at least one nozzle plate has a length that is greater than a width of an area of the moving surface that is to be treated, and further comprising actuators operatively connected to said at least one nozzle plate for moving said at least one nozzle plate at least partly outside the width of the area of the moving surface that is to be treated.

61. (previously presented) The apparatus according to claim 57, further comprising at least one steam nozzle operatively arranged for blowing steam towards said at least one nozzle plate.

62. (previously presented) The apparatus according to claim 58, further comprising at least one steam nozzle operatively arranged for blowing steam towards said at least one nozzle plate.

63. (previously presented) The apparatus according to claim 59, further comprising at least one steam nozzle operatively arranged for blowing steam towards said at least one nozzle plate.

64. (previously presented) The apparatus of claim 57, further comprising means for directing at least one needle-shaped water jet at the openings of said at least one nozzle plate.

65. (previously presented) The apparatus of claim 58, further comprising means for directing at least one needle-shaped water jet at the openings of said at least one nozzle plate.

66. (previously presented) The apparatus of claim 59, further comprising means for directing at least one needle-shaped water jet at the openings of said at least one nozzle plate.

67. (previously presented) The apparatus of claim 58, further comprising a cleaning plate having an edge and movably fitted in said at least one feeding chamber so that said edge of said cleaning plate scrapes one of said screen plate and said nozzle plate during movement thereof.

68.-75. (canceled)

76. (previously presented) The method of claim 20, wherein a thickness of the nozzle plate is in the range of about 0.1 - 0.5 mm.

77. (previously presented) The apparatus of claim 57, wherein a thickness of said nozzle plate is in the range of about 0.1 - 0.5 mm.

78. (previously presented) A method for applying a treating agent onto a moving surface, comprising the steps of:

(a) feeding a treating agent into at least one feeding chamber;

(b) forming continuous jets of the treating agent by directing the treating agent through openings in at least one nozzle plate, the entire peripheries of said openings being defined by said at least one nozzle plate;

(c) directing the jets of the treating agent toward the moving surface; and

(d) moving the at least one nozzle plate relative to the at least one feeding chamber in a direction transverse to the direction of movement of the moving surface, so that at least a portion of the length of the at least one nozzle plate is moved outside of a width of an area of the moving surface to be treated.

79. (previously presented) The method of claim 78, further comprising the step of cleaning the at least one nozzle plate by blasting steam against the at least one nozzle plate.

80. (previously presented) The method of claim 78, further comprising the step of cleaning the openings in the at least one nozzle plate by directing a needle-shaped water jet at the openings.

81. (previously presented) The method of claim 78, further comprising the step of cleaning the at least one nozzle plate with ultrasound at the at least one nozzle plate.

82. (previously presented) The method of claim 78, further comprising the step of controlling the amount of treating agent fed to the moving surface as a function of the volume flow of the treating agent.

83. (previously presented) An apparatus for spreading a treating agent onto a moving surface, comprising:

at least one feeding chamber for receiving a treating agent;

means for directing the treating agent from said at least one feeding chamber onto the moving surface, said means including at least one nozzle plate that at least partly closes said at least one feeding chamber, said at least one nozzle plate including openings and having a length that is greater than a width of an area of the moving surface that is to be treated, wherein each of said openings comprise a periphery defined entirely by said at least one nozzle plate, and wherein continuous jets of the treating agent are formed by said openings and directed onto the moving surface when the feeding chamber is at least partially filled with pressurised treating agent; and

an actuator operatively connected to said at least one nozzle plate for moving said at least one nozzle plate relative to said at least one feeding chamber so that said at least one nozzle plate is at least partly outside the width of the area of the moving surface that is to be treated.

84. (previously presented) The apparatus according to claim 83, further comprising at least one steam nozzle operatively arranged for blowing steam towards said at least one nozzle plate.

85. (previously presented) The apparatus of claim 83, further comprising means for directing at least one needle-shaped water jet at the openings of said at least one nozzle plate.

86. (previously presented) The method of claim 24, wherein the screen plate comprises a plurality of screen holes, wherein a diameter of the screen holes is smaller than a diameter of the openings in said at least one nozzle plate.

87. (previously presented) The method of claim 86, wherein said step (a) comprises feeding a treating agent from a feed channel through a first boring to the feed chamber and said the treating agent is fed through a second boring after said treating agent is fed through said feed plate and before said step of directing the treating agent through openings in the at least one nozzle plate, wherein pressure drops in the treating agent occur at the first boring, the screen plate, and the second boring.

88. (previously presented) The apparatus of claim 58, wherein said screen plate comprises a plurality of screen holes, wherein a diameter of said screen holes is smaller than a diameter of said openings of said at least one nozzle plate.

89. (previously presented) The apparatus of claim 88, wherein said body further defines a feed channel and a first boring, said treating agent being fed from said feed channel to said feed chamber through said first boring, wherein a second boring is arranged between said screen plate and said nozzle plate, wherein pressure drops in said treating agent occur at said first boring, said screen plate, and said second boring.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None